RESPONSIVENESS SUMMARY

For

Agreed Order # 97TC- N122

January 2001

Format of the Responsiveness Summary:

Part 1:

The first part of the Responsiveness Summary consists of general responses to concepts and issues that were expressed repeatedly in the comments received. Part 1 of the Responsiveness Summary should be read before proceeding to Part 2. These general responses are broken down into the following four sections that represent the major topic areas expressed in numerous repetitive comments:

- (1) "Regulatory" Section
- (2) "Purpose" Section
- (3) "Approach" Section
- (4) "Public Participation" Section

Part 2:

The second part of the Responsiveness Summary consists of specific responses to individual comments. Many of the specific responses are partially or completely covered in the general responses provided in Part 1. Part 1 of the Responsiveness Summary should be read before proceeding to Part 2.

Copies of the written comments received from each person are presented followed by responses to those comments. Numbered brackets identifying the comments that Ecology has provided responses for are inserted in the individual written comments and transcripts. In the responses to comments a statement either quoting a comment directly or summarizing a comment precedes each specific response. Ecology apologizes for any inadvertent misinterpretations of comments. In many instances, a single issue is mentioned more than once in individual written comments. Generally the responses to each person are provided on a "one issue – one response" basis.

Transcripts of oral comments made by each person during the public meeting are also presented with responses. Many of the oral comments were duplicated in written comments submitted later in the comment period. At times the audio of the tape recording made during the public meeting was of poor quality. Ecology apologizes for any inaccuracies that may be in the transcripts.

Ecology believes there has been a conscientious effort to address all appropriate comments made regarding the Agreed Order. There were certain types of comments made however, for which either there may be no response provided or there may be only a limited response provided. The following are these types of comments:

1. Comments that stated the obvious, such as these general examples: "drinking water supplies must be protected", "contamination must be cleaned up", "pollution of ground and surface waters must be prevented".

- 2. Comments that provided no specifics regarding the rationale, meaning, or basis for the comment. Nonspecific responses were attempted, but Ecology did not engage in extensive speculation to respond to these types of comments.
- 3. Comments regarding environmental issues at Sea-Tac Airport that are outside the scope of the Model Toxics Control Act or Underground Storage Tank regulations, particularly where opportunity for public comment regarding these issues has already been afforded through other processes including the EISs for the Third Runway, the NPDES Permit, and the 401/404 Permit.
- 4. Comments that presented general information or expressed opinions on various subjects unless the information or opinion related directly to the Agreed Order. A non-response from Ecology to any general information or opinions expressed in the comments received does not imply that the agency concurs with that information or opinions.
- 5. Comments and views that assailed the integrity of the Department of Ecology such as: Ecology is controlled by or in conspiracy with the Port of Seattle, the conclusions of the groundwater study have been predetermined, there are devious, "planned" motives other than environmental protection behind the Agreed Order, etc. The response to these comments and views is that they are patently untrue.

Part 3:

The third part of the Responsiveness Summary presents the changes between the draft Agreed Order presented for public comment and the final signed Agreed Order. Changes to the draft Public Participation Plan are also presented. Changes to the draft Agreed Order and Public Participation Plan include: (1) specific changes based on comments received, (2) changes made to alleviate confusion and misunderstanding that some of the draft language appeared to be causing, and (3) changes made to reflect more current conditions or information. The changes made to the draft Agreed Order were not substantial enough to warrant additional public comment on the final Agreed Order.

The draft Agreed Order and Public Participation Plan are presented with the changes that were made. The individual changes of these documents are numbered and explanation and rationale are provided for each numbered change.

Pa	rt 1 (General Responses)	Page 5
Re	gulatory	Page 6
Pui	rpose	Page 10
Ap	proach	Page 18
Pul	blic Participation	Page 24
Pa	rt 2 (Comment Providers & Individual Responses)	Page 28
1.	Bader, Jorgen	Page 275
2.	Bartlemay, James	Page 110
3.	Blalock, Rod	Page 194
4.	Brown, Arlene	Page 88
5.	Brown, Derek	Page 107
6.	Cairns, Elizabeth	Page 189
7.	Caldwelll, Dan	Page 40
8.	Cox, Becky	Page 243
9.	Cox, Joan	Page 199
10.	Cutler & Stanfield	Page 309
11.	Des Marais, Debi	Page 179
12.	Dodge, Clark	Page 47
13.	Frause, Henry	Page 185
14.	Furney, Allan	Page 132
15.	Ginsberg, Beth	Page 296
16.	Grant, Harry	Page 290
17.	Hedeman, Leroy	Page 38
18.	Jhaveri, Arun	Page 99
19.	Kadeg, Roger	Page 262
20.	Keiser, Karen	Page 29
21.	Kludt, Helen	Page 245
22.	Kraft, Kurt	Page 129
23.	Lien, Elizabeth	Page 326
24.	Matthews, Vivian	Page 177
25.	Mealy, Carl	Page 169
26.	Meyers, Wallace	Page 120
27.	Newlon, Thomas	Page 285
28.	Pugh, Warren	Page 174
29.	Reno, Thomas	Page 328
30.	Richter, Audrey	Page 316
31.	Schneider, George	Page 334
32.	Stark, Ben	Page 123
33.	Stuhring, Barbara	Page 209
34.	Whisler, Wilton	Page 205
	Wieneke, Steven	
	Williams, Kenneth	_
	Wingard, Greg	_
Pa	rt 3 (Changes from Draft to Final)	Page 341
	reed Order	
	blic Participation Plan	

Part 1

General Responses

General Response to "Regulatory" Section:

The Agreed Order for the groundwater study is being carried out under the authority of Chapter 70.105D RCW (Hazardous Waste Cleanup - Model Toxics Control Act). As stated in 70.105D.030(1)(a), one of Ecology's powers is to "investigate, provide for investigating, or require potentially liable persons to investigate any releases or threatened releases of hazardous substances, including but not limited to inspecting, sampling, or testing to determine the nature or extent of any release or threatened release". The groundwater study is an investigative cleanup action. As stated in the Fact Sheet: "The purpose of the groundwater study is to gain a more complete understanding of the direction and behavior of groundwater flows beneath the Airport and to make certain that the contamination that exists beneath portions of the Airport is not a threat to drinking water supply wells or surface water bodies in the area".

Many comments were received that expressed confusion and concern about the relation the Model Toxics Control Act (MTCA) has to other regulations pertaining to groundwater such as Chapter 90.48 RCW (Water Pollution Control) and Chapter 173-200 WAC (Water Quality Standards for Ground Waters of the State of Washington). The comments indicated concerns that use of the MTCA at SeaTac Airport will allow these other regulations to be ignored or negated.

Ecology has evaluated the concerns and determined that they are based on a misunderstanding of the interaction between the different statutes and regulations.

MTCA and the Ground Water Quality Standards (GWQS) regulations were written to specifically eliminate conflict concerning their applicability. As stated in WAC 173-200-010(3)(c), "This chapter shall not apply to: Clean up actions approved by the department under the Model Toxics Control Act." Furthermore, "groundwater cleanup standards for such sites shall be developed under WAC 173-340-720". (The Model Toxics Control Act Cleanup Regulation. Section 720 outlines the conditions for selecting groundwater cleanup standards). The word "sites" refers to any area where contaminated groundwater is located.

As stated in the Agreed Order, there are known individual areas of contamination (MTCA sites) at several locations within Sea-Tac Airport. Independent cleanup actions (cleanup actions conducted without Ecology's direct oversight) are in progress at these MTCA sites. Groundwater is contaminated at some of these sites. At MTCA sites where groundwater is contaminated, groundwater standards will be developed and reviewed under WAC 173-340-720 rather than through the application of the groundwater quality standards. Application of the groundwater quality standards is excluded from any MTCA groundwater cleanup action, whether it is conducted with formal Ecology oversight or independently without Ecology oversight. Groundwater cleanup actions under the MTCA are developed and reviewed under WAC 173-340-720, and are approved at all sites including independent cleanup sites.

In addition to the exclusion of the groundwater quality standards in areas of contaminated groundwater as described above, the procedural (permitting) requirements of RCW 90.48

and other state and local laws can be excluded in cleanup actions performed with Ecology oversight under the MTCA. The permitting exclusions for cleanup actions are authorized in RCW 70.105D.090, and in the case of the Water Pollution Control regulation, in RCW 90.48.039. The substantive requirements of any excluded permits must be provided for in an Agreed Order or Consent Decree.

The only permit exclusion allowed during independent cleanups involves the short-term (<60 days) controlled discharge of contaminants during cleanup actions for Leaking Underground Storage Tanks (LUST) sites. The contaminants must be constituents of petroleum only (TPHG, TPHD, Benzene, Toluene, Ethylbenzene, and Xylene), and must meet certain levels of pretreatment. If the controlled discharge is to groundwater, the discharge must be registered with the state Underground Injection Control (UIC) program.

Note, however, there are no actions in the Agreed Order that would involve a permit exclusion.

Some commentators expressed the notion that a State Waste Discharge Permit was necessary or required to regulate presumed ongoing discharges of contaminants to groundwater from all facilities at SeaTac Airport, including the USTs and fuel distribution systems.

The concept of a permitted waste discharge does not apply to facilities that control non-waste products and are prohibited from discharging or releasing those products. The Sea-Tac Airport facilities must be designed and operated to prevent discharge or release of the products such as jet fuel. Any discharge or release would require evaluation and necessary response. There would be no permitting of such releases.

There is no evidence at this time of ongoing discharges of contaminants to groundwater from facilities at Sea-Tac Airport that control non-waste products such as USTs and fuel distribution systems. The prevention of ongoing discharges of contaminants to groundwater from these facilities at the airport is addressed through the requirements of the UST Regulations (WAC 173-360) and the in the implementation of best management practices (BMPs) in the operations of these facilities. The Pollution Prevention part of the Agreed Order will further examine ways to prevent the release of contaminants from these facilities. Ecology will not approve of or permit any ongoing discharge of contaminants to groundwater from these facilities at Sea-Tac Airport. Any newly discovered discharge or release would have to be corrected and its impacts reviewed and addressed.

General Response to "Purpose" Section:

Comments received indicated various perceptions and opinions about the purpose of the Agreed Order for the groundwater study at Sea-Tac Airport.

Some comments seemed to imply that no cleanup actions have taken place, or are ongoing, at Sea-Tac Airport and that the purpose of the Agreed Order is a small first step in that direction.

Commonly, it was thought that the purpose of the Agreed Order is, or should be to conduct a remedial investigation (RI) of the entire airport. Comments received pointed out differences and shortcomings of the Agreed Order in fulfilling the requirements of the formal cleanup process as specified in the Model Toxics Control Act Cleanup Regulation (MTCA) Chapter 173-340 WAC.

Other comments expressed the opinion that the Agreed Order should require a RI and feasibility study (FS), including selection of remedy and setting of cleanup standards.

Some commentors felt that the Agreed Order should require a cleanup action plan (CAP) for the entire airport as well.

As stated in the Agreed Order, there are known individual areas of contamination (MTCA sites) at several locations within Sea-Tac Airport. Investigations and remedial actions (cleanup actions) at these sites are documented in numerous reports on file at

Ecology's Northwest Regional Office. It is a requirement of the MTCA that all cleanup actions are reported to the agency, and reports are received continually as cleanup activities at MTCA sites progress. MTCA sites are also tracked by Ecology through the agency's underground storage tank and contaminated sites databases. The existing information about the MTCA sites at Sea-Tac Airport indicates that there does not appear to be significant risk to sensitive receptors (drinking water wells and surface water bodies) near the airport posed by the contamination in these known areas because (1) the known contamination has finite limits and (2) the known hydrogeologic properties in the area tend to prevent contaminants from easily reaching the receptors.

Operations and activities involving the handling and potential release of hazardous substances have taken place at Sea-Tac Airport for about 50 years, however, and unknown contamination from historical airport operations could also exist. Ecology concluded that additional evaluation of risks posed by known and unknown contamination at Sea-Tac Airport to sensitive receptors near the airport was appropriate. The basic concept of the evaluation is to examine the groundwater flow and related transport of contaminants in the subsurface at the airport. To accomplish this evaluation, existing information would be compiled and additional information acquired describing hydrogeology and groundwater flow at the airport and surrounding vicinity. Evaluation of these data will provide a better understanding of the contaminant transport pathways associated with groundwater flow. The proposed project to acquire this information and to evaluate the risk to receptors has become known as the "STIA Groundwater Study".

As stated in the Fact Sheet: "The purpose of the groundwater study is to gain a more complete understanding of the direction and behavior of groundwater flows beneath the Airport and to make certain that the contamination that exists beneath portions of the airport is not a threat to drinking water supply wells or surface water bodies in the area". The groundwater study is an investigative cleanup action as defined in the MTCA. The purpose of the study is not, however, a formal remedial investigation (RI) of the entire airport or of a major portion of the airport such as the AOMA. The groundwater study is also not intended as a feasibility study or a cleanup action plan for the AOMA or the entire airport.

Various responsible parties are conducting separate cleanup actions at their respective MTCA sites at Sea-Tac Airport: airline companies, rental-car companies, the Port of Seattle, and others. Cleanup actions at the individual sites are on different timelines and at different stages in the cleanup process. The existing information (as per the cleanup reports for each MTCA site) indicates that the extent of the soil and groundwater contamination at each site is bounded. Contamination appears to extend finite distances from known contaminant source areas, and the sites are isolated from each other.

Furthermore, subsurface environmental information acquired during construction projects and also during site assessment work for the closure of two hydrant fuel systems (as required by UST regulations – Chapter 173-360 WAC) has indicated there are large uncontaminated areas within the AOMA. For these reasons Ecology's regulatory approach concerning cleanup at Sea-Tac Airport to date has been to consider each of the

MTCA sites at the airport individually rather than to consider the entire airport (or a major portion of the airport such as the AOMA) as a MTCA "site".

Cleanup actions at the individual airport MTCA sites have been ongoing independently without Ecology's formal oversight, that is, without a Consent Decree or Agreed Order. Independent cleanup actions are allowed and encouraged by the MTCA, and approximately 90 % of all cleanup actions in the state are conducted independently. It is not Ecology's practice to take over independent cleanups unless extreme risk is demonstrated and the cleanup actions are not adequate. The existing information indicates that there does not appear to be significant risk posed by contamination at the known MTCA sites at Sea-Tac Airport, and the ongoing independent cleanup actions at the sites appear at this time to be adequate. (There are no mandated deadlines for completion of cleanup actions in the MTCA). For these reasons, Ecology's regulatory approach to cleanup at Sea-Tac Airport has been to allow the responsible parties to conduct independent investigations and cleanups of their contaminated sites.

There has been no evidence to indicate a need for Ecology to take over the independent cleanup actions at any single MTCA site, or to place the airport or portion of the airport under a formal cleanup process (Agreed Order or Consent Decree). Although Ecology has not placed any cleanup actions at Sea-Tac Airport under a formal cleanup process, the agency has proactively encouraged, helped facilitate, and monitored the independent cleanup actions. This informal involvement in cleanup activities at the airport has included working with multiple responsible parties to facilitate cooperation, ongoing

review of submitted cleanup reports, and proactively providing technical assistance as per WAC 173-340-130 (3)(a) and RCW 70.105D.020 (1)(i) (Hazardous Waste Cleanup Model Toxics Control Act). If, in the future, any of the independent cleanup actions at Sea-Tac Airport are determined to be inadequate and/or if a potential for significant environmental risk is demonstrated by new information, Ecology could, at its discretion, take over direct oversight and impose a formal cleanup process on the airport, portion of the airport, or on an individual site.

Many comments received objected to language in the Agreed Order that stated a remedial investigation (RI) of the entire AOMA (or airport) was not practicable given listed conditions at Sea-Tac Airport that make drilling and sampling a difficult and costly procedure. The word "practicable" is defined in the MTCA (WAC 173-340-200) and includes the concept of disproportionate cost. This means that if the cost of a particular cleanup action is "substantial and disproportionate" to the environmental significance or amount of environmental benefit the action accomplishes, alternative actions may be considered.

There are particular difficulties and substantial costs in acquiring extensive subsurface environmental information at an operating commercial airport. The existing subsurface environmental information that has been acquired at Sea-Tac Airport indicates that there does not appear to be significant risk posed by the known subsurface contamination at the airport. For these reasons, it is Ecology's opinion that a formal RI to investigate soil and groundwater contamination in areas outside the known MTCA sites throughout the

airport is not practicable and not warranted at this time. This is not to say however, that a RI at the airport is technically impossible, or that a RI at the airport is precluded should new information indicate that further investigations in other areas of the airport are warranted.

The purpose of the groundwater study is to further evaluate, by conducting a scientific inquiry, risk posed by the subsurface contamination at Sea-Tac Airport to sensitive receptors near the airport (drinking water wells and surface water bodies). The groundwater study is not intended to investigate all contaminated media and exposure pathways, but is focused on groundwater and contaminant transport via groundwater flow. The groundwater study also is not intended to set cleanup levels or to develop specific remedial actions. Once the risk to receptors has been evaluated, the purpose of the Agreed Order will be achieved.

There were commentors that expressed the belief that, if the groundwater study demonstrated the subsurface contamination at Sea-Tac Airport did not pose risk to nearby surface-water bodies or drinking water wells, there would be an end to all cleanup at the airport. Furthermore, as a consequence, the groundwater at the airport would become a hazardous waste disposal site – a "dumping ground" for contaminants. Some comments implied that, rather than environmental protection, the real purpose of the groundwater study was to facilitate this concept.

The outcome of the groundwater study will be to demonstrate whether the contamination at Sea-Tac Airport poses significant risks to sensitive receptors (drinking water wells and surface water bodies) near the airport. Regardless of its outcome however, the groundwater study is not a means by which the ongoing independent cleanup actions at the airport can be concluded, or by which any future cleanup actions at the airport can be precluded. The MTCA outlines a specific, methodical process to address the cleanup of contaminants released to the environment. The results of an evaluation of risk posed by contaminants in the environment are pertinent information to decision making in certain parts of the cleanup process. An evaluation of risk, regardless of results however, is not a singular means by which the regulatory cleanup process under the MTCA can be terminated. The information generated by the groundwater study may be significant to the ongoing and any future cleanup actions at Sea-Tac Airport, but it cannot eliminate the MTCA process at airport sites.

Additionally, the groundwater study is not a means by which the requirements of regulations such as the Groundwater Quality Standards and the Underground Storage Tank regulations can be ignored. These regulations are designed to prevent the degradation of the environment by strictly controlling or precluding the release of contaminants. These preventative regulations do not consider the risk contaminants would pose if released to the environment at any particular location. These regulations apply to specific airport facilities regardless of the outcome of the groundwater study.

Additional cleanup actions at the airport could be required if warranted by the groundwater study findings. In the event additional cleanup actions are required, Ecology would work cooperatively with responsible parties and determine the appropriate regulatory approach.

General Response to "Approach" Section:

Many comments received expressed perceptions, opinions, and concerns about the proposed approach to conduct the groundwater study. The comments were generally about the use of modeling methodology and the scope of the groundwater study.

In regards to the use of modeling methodology, some commentors rejected the use of modeling technology, and wanted the groundwater study conducted utilizing an extensive deep drilling project throughout Sea-Tac Airport. Other comments stated that the input parameters to a model could not be trusted, or could be manipulated to produce a desired outcome. Although no technical details of the proposed model were presented in the Agreed Order, some commentors pointed out specific perceived technical failings of the model. Other comments pointed out considerations the model should include such as multiple contaminants, long-term travel times of contaminants, connectivity between aquifers, understanding of hydrogeology, etc.

In regards to the scope of the groundwater study, many commentors believed the scope of the groundwater study was too narrow because the study apparently focused only on the AOMA part of the airport and not the entire airport. It was pointed out many times that the AOMA is only 14% of the airport. The Agreed Order states that the AOMA defines an area where airport operations that have caused contamination at the airport have been located during the history of Sea-Tac Airport. The AOMA encompasses the active MTCA sites at the airport and is where known impacts to the Qva aquifer are located.

According to comments received however, there is a perception that other areas of the airport are as contaminated, if not more so, than the AOMA and must be included in the groundwater study. Commentors pointed out various facilities, operations, and site conditions that they believed to be significant sources of contamination outside the AOMA.

In particular, large numbers of comments were received that expressed concerns about risk to groundwater posed by abandoned home heating oil tanks in the home buyout areas ("clear zones") that are located outside the airport about two miles to the north and to the south. Commentors felt the groundwater study should include these areas.

Other comments stated that the groundwater study should address hydrogeological effects or potential future groundwater contamination from construction projects at Sea-Tac Airport. Some comments implied the groundwater study should address contamination in storm water and surface water as well. Some commentors were concerned that the groundwater study seemed to focus only on the shallowest aquifer beneath the airport (the Qva Aquifer) and ignored the deeper aquifers.

Ecology considers that an appropriate technical approach to conduct the groundwater study is to first utilize existing information to develop conceptual and numerical models of groundwater flow and contaminant fate and transport, and then evaluate and confirm the results of the modeling. Modeling techniques and software to simulate groundwater flow and the behavior of contaminants in the subsurface are well-established

technologies. The use of modeling methodology allows the simulation of a wide range of conditions. Furthermore, modeling provides information concerning the long-term behavior of contaminants in the subsurface environment, which allows current conditions to be projected into the future (or historical conditions projected into the present). Modeling is the most expeditious means to evaluate the risk. The purpose of the groundwater study is to evaluate the risks posed by the subsurface contamination at Sea-Tac Airport to nearby surface waters and drinking water wells through the groundwater pathway. At this time, Ecology does not consider that an extensive deep drilling project throughout the airport is necessary to accomplish that purpose.

Simulated modeling results alone are not sufficient however. As stated in the Agreed Order, a number of monitoring wells will be installed to acquire subsurface data after the modeling is complete. The objective of the follow-up work is to confirm the results of the model, adjust the model if necessary, accomplish additional groundwater investigations to fill potential data gaps, and to perform long-term monitoring that the groundwater study results may indicate appropriate. A purpose served by the modeling is to direct and optimize the acquisition of the additional subsurface data needed for the groundwater study.

As stated in the Agreed Order, a report will be prepared that describes the modeling and presents the results of the modeling. The report will include a tabulation of the input parameters used in the modeling and the source, derivation, or rationale justifying their use in the model. Various ranges of individual input parameters may be used. The report

will include a sensitivity analysis of the modeling that provides information about the relative influence (sensitivity) that each input parameter has on the results of the model. All aspects of the model and its results will be made available for public review in the Phase I report.

There are two parts to the model: (1) groundwater flow and (2) contaminant fate and transport.

A groundwater flow model must first be developed because groundwater flow is the principal mechanism by which contaminants are transported in the subsurface environment. The groundwater flow model will include the entire airport and large areas outside the airport in order to simulate area-wide groundwater flow patterns in the aquifers. The model will include the capture zones of the Highline well field to the north, the Highline Water District and District 54 wells to the south; and base flow to drainages near the airport. The model will be three-dimensional and simulate the vertical movement of groundwater in the shallow (Qva) and deeper aquifers as well as horizontal flow patterns in the major aquifers. Extensive existing groundwater data will be compiled, and new data will be acquired from a representative set of existing Qva wells located throughout the AOMA and near vicinity, for use in the contaminant fate and transport modeling. Once the groundwater flow model has been developed and calibrated, it will describe the patterns of groundwater flow in the aquifers beneath the airport and surrounding vicinity, including the effects of pumping from the public water wells and interaction with surface water bodies.

The model will then be used to predict the behavior of contamination (contaminant fate and transport) in groundwater beginning with the contamination in the Qva aquifer beneath the AOMA as initial source areas. The modeling will enable various scenarios of contaminant fate and transport to be simulated in the aquifers beneath the AOMA and downgradient from it. These simulations will help identify contaminant concentrations, migration pathways, and travel times from contaminant source areas. The simulations will consider airport contaminants of concern associated with known and historical operations and sources. As stated in the Agreed Order, research will be accomplished concerning the identification of possible historical sources of contamination.

The groundwater contaminant fate and transport modeling will focus on the AOMA of the airport and areas that are downgradient from it. "AOMA" is a term developed for use in the Agreed Order to refer to the southeastern part of Sea-Tac Airport where the majority of facilities and operations that involve the handling and use of hazardous substances are now, and have historically been located. These include all facilities involved in the storage and underground transfer of large quantities of jet fuel. The Olympic tank farm will be included in the AOMA. The AOMA is where most of the contamination at Sea-Tac Airport is located, including known impacts to the Qva aquifer. Therefore, an evaluation of the contaminant fate and transport in the aquifers beneath the AOMA represents the worst-case scenario at the airport for groundwater contamination and potential impacts to receptors. For these reasons the contaminant modeling will focus on the AOMA and areas that are downgradient from it.

Contaminant transport modeling will not be performed in areas where, given existing data and historical information, it appears there is a low probability of impact to the Qva aquifer. Those areas are the location of current or historical facilities and operations that do not appear to have the capacity to adversely impact the Qva because of the nature (chemicals used, volumes, distribution, etc.) of the potential sources of contamination. For that reason, contaminant transport modeling will not be performed outside of the AOMA. Research of historical operations will, however, identify any potentially significant contaminant sources within the operating airport outside the AOMA which, given the modeling results, could pose significant risk to the subject receptors through groundwater flow. Any such sources will be addressed under the MTCA.

The model will simulate flow and contaminant transport in the primary aquifers beneath the airport. The model will not simulate flow and contaminant transport in storm and surface water, perched groundwater, or in the unsaturated geologic material (vadose zone) overlying the aquifers. The model will not evaluate hydrgeological effects possibly associated with future construction projects at the airport. Contaminant transport modeling will not be performed in areas of future construction projects as part of a MTCA Agreed Order with the assumption that the underlying aquifers will be contaminated in the future.

General Response to "Public Participation" Section:

Many comments were received that stated there was not sufficient public participation in the formulation of this Agreed Order. The concern expressed was that the public was not invited to participate in the negotiations between the Port of Seattle and Ecology through which the Agreed Order was formulated. There were comments that community representatives should have been "at the table" during all negotiations. There were further comments that, in addition to this Agreed Order, there should be public involvement in all remedial actions that are taking place at Sea-Tac Airport.

There were requests for immediate public involvement in the selection of the "representative set of wells" that will be used to acquire groundwater flow data in the Qva aquifer for use in the contaminant fate and transport model.

Some commentors requested that the proposed Agreed Order be withdrawn and rewritten with a much greater level of public involvement to correct deficiencies in the Order.

Other commentors stated that the appropriate level of public involvement in the groundwater study was to appoint an ad hoc citizens advisory committee (CAC) that would have complete oversight and responsibility for the project.

From the outset, Ecology considered that the appropriate regulatory mechanism to conduct the groundwater project at Sea-Tac Airport was through an Agreed Order. A primary reason for accomplishing the project through an Agreed Order was to afford the

public an opportunity to provide comments and express its concerns through the MTCA public participation process.

The MTCA public participation process for an Agreed Order (WAC 173-340-600) requires that Ecology provide public notice, a public participation plan (attached to the Order), a public meeting if requested, and a 30-day period for acceptance of public comment. The MTCA allows as an option, but does not require or define, additional public participation actions beyond these basic requirements.

Ecology acknowledges the opinions of those that felt they were not adequately involved prior to the public comment period for the Agreed Order. However, the public participation process for the Agreed Order was carried out in accordance with the requirements of the MTCA regulations (WAC 173-340-600). Under the MTCA a formal public comment period is not required until negotiations for the draft Agreed Order are complete.

It should be understood that the concept of the groundwater study was recognized and evolved over time during the course of the Toxic Cleanup Program's involvement in other activities Sea-Tac Airport. During that time an appropriate approach was formulated to acquire a broader scope of environmental information. The discussions that resulted in formulation of the Agreed Order took place intermittently over a substantial time period and were incidental to discussions about other airport issues and activities.

As previously stated, cleanup actions at the individual MTCA sites at Sea-Tac Airport are being conducted independently by various responsible parties. There is currently no regulatory mechanism for public participation in independent cleanups. However, there are reports available to the public at Ecology's Northwest Regional office, which contain complete information about all the independent cleanup actions at Sea-Tac Airport.

The selection of representative wells from the database of existing wells will be controlled by technical considerations such as condition of the wells, screening intervals, needs of the model, etc. Accessibility of wells will be a controlling factor in the selection of existing wells outside Port property. Given these circumstances, the selection of the representative set of wells will be a straightforward, technical process. Ecology considers that extensive public participation in this process is not an appropriate use of resources at this time. The process and rationale for the selection of the representative set of wells will be presented in the report on the modeling.

Ecology strongly disagrees with requests to withdraw the Agreed Order and start over. For various reasons, the groundwater project has already been delayed for a significant period of time. One of the primary reasons for the delay has been the time required to accommodate the extensive public participation that has already taken place in the project. Ecology considers that the project must go forward in order to evaluate the risks, and that a considerable delay caused by starting over would not be in the public's best interest.

The public participation actions outlined in the Public Participation Plan attached to the Agreed Order are adequate for the scope and purpose of this project. The public submitted almost 1000 comments on the Agreed Order through the existing process. A second opportunity to submit formal comments will be forthcoming after the report on the results of Phase I activities and the addendum to the Agreed Order describing proposed Phase II activities are completed.

Ecology has been granted authority by law to make decisions concerning cleanup actions under the MTCA and cannot defer that authority and responsibility to another organization such as a citizen's advisory committee. The MTCA provides for public participation in formal cleanup actions, but does not provide for public oversight.

In addition to meeting the required MTCA public participation actions for this Agreed Order, Ecology implemented optional public participation actions. Following the public meeting in May 1997, Ecology hosted two additional informational meetings to discuss the Agreed Order. Ecology also conducted outreach to interested community groups and individuals, and responded to many individual public inquires. Additional optional public participation actions will be conducted as appropriate.